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EXAMINER	
ZHANG, JUE	

ART UNIT	PAPER NUMBER
2838	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,974	DOLL ET AL.	
	Examiner	Art Unit	
	JUE ZHANG	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/2/2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-11, 14-15, 19, 21-23, 25-34, 36-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9,19,22,23,25-27,34,36-42,53 and 54* is/are rejected.

7)☒ Claim(s) *10,11,14,15,21,28-33 and 43-52* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in answer to the response filed on 7/2/2009. Claims 1-11, 14-15, 19, 21-23, 25-54 are pending, of which original claims 1, 3-11, 14-15, 19, 21-23, 25-34, 36-54 are amended, and claims 2, 35 are cancelled by the present amendment.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-7, 19, 25-27, 34, 36-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Miwa et al. (JP04334935, hereinafter '935).

Claims 1, 34, '935 teaches a device, comprising:

an output circuit (Fig. 1);

a power management system (Abstract; Fig. 1) configured to supply power to the output circuit comprising:

a plurality of rechargeable batteries (e.g., 9a ... 9n)(Fig. 1);

first conversion means (e.g., 2) for converting a supply voltage to a battery voltage (Fig. 2);

switch means (e.g., 12a to 12n) to enable selectively connect the plurality of rechargeable batteries to the first conversion means for charging of the batteries and to

connect a selected one or more of the plurality of batteries to the output circuit to enable the selected one or more batteries to be discharged through the output circuit (e.g., when 12a to 12n selectively connected to 14a to 14n) (Abstract; Fig. 1).

Claims 3, 36, '935 teaches the limitation of claims 1 and 34 as discussed above. '935 further teaches that wherein the power management system further comprises: a second conversion means (e.g., 6) connected between the output circuit and the switch means for converting the voltage of the selected one or more batteries to a voltage for use by the output circuit thereby discharging the selected one or more batteries (Abstract; Fig. 1).

Claims 4, 37, '935 teaches the limitation of claims 1 and 34 as discussed above. '935 further teaches that-wherein the plurality of rechargeable batteries are charged or discharged a rechargeable battery of the plurality of rechargeable batteries is chosen, one at a time (Abstract; Fig. 1).

Claims 5, 38, '935 teaches the limitation of claims 1 and 34 as discussed above. '935 further teaches that wherein the first conversion means is also connected between the output circuit and the switch means for converting the voltage of the selected one or more batteries to a voltage for use by the output circuit (Abstract; Fig. 1).

Claims 6, 39, '935 teaches the limitation of claims 1 and 34 as discussed above. '935 further teaches that wherein the switch means comprises a plurality of switches enabling connection of one or more of the plurality of rechargeable batteries to the first conversion means and of the selected one or more batteries to the output circuit (Abstract; Fig. 1).

Claims 7, 40, '935 teaches the limitation of claims 1 and 34 as discussed above. '935 further teaches that a control unit (e.g., 28) configured to control the switch means to either enable the charging of the plurality of batteries and the discharging of the selected one or more batteries based on the state of charge of the plurality of batteries, charging or discharging of a rechargeable battery of the plurality of rechargeable batteries (Abstract; Fig. 1).

Claim 19, '935 teaches the limitation of claim 3 as discussed above. '935 further teaches that wherein the second conversion means enables discharging of the selected one or more batteries such that charge in the selected one or more batteries is forwarded to the output circuit (Abstract; Fig. 1).

For method claims 25-27, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore the previous rejections based on the apparatus will not be repeated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa et al. ('935), in view of Maki (US Patent No. 6541980, hereinafter '980).

For claim 8, 41, '935 teach the limitations of claims 7, 40 as discussed above.

'935 does not explicitly teach that a multiplexer means is used to select one terminal of each rechargeable battery in the plurality of rechargeable batteries for to be forwarded to an A/D converter.

However, in an analogous art, '980 teaches a battery voltage monitoring device (Abstract; Fig. 1 and corresponding text) which uses multiplexer means (e.g., 1 or 2) to select one terminal of each rechargeable battery in the plurality of rechargeable batteries for the voltage to be measured by an A/D converter (5). Therefore, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the multiplexer means to select one terminal of each rechargeable battery in the plurality of rechargeable batteries of '935, as taught by '980, in order to have measured the selected voltage of the batteries using the A/D converter, because '980 has demonstrated that it is a preferred method in order to have measured the selected battery voltage from multiple of batteries using an a/d converter.

5. Claims 9, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa et al. ('935), in view of Maki (US Patent No. 6541980, hereinafter '980), further in view of Nanno et al. (US Patent No. 5553294, hereinafter '294)

For claim 9, 42, '935, and '980 teach the claimed invention as discussed above except for a shunt impedance means being connected to the other terminal of each battery in the plurality of rechargeable batteries to measure the charge current of each battery, represented as a voltage drop across the shunt impedance means

'294 further teaches that a shunt impedance means connected to the other terminal of each battery in the plurality of rechargeable batteries to measure the charge current of each battery, represented as a voltage drop across the shunt impedance means e.g., the input impedance of 312) (Fig. 2 and corresponding text). '294 further teaches that the charging current can be determined. Therefore, the subject matter as whole would have be obvious to one of ordinary in art the have used the shunt impedance of '294 in the device of 935 and 980, as taught by '294, in order to determined the charging current since '294 has demonstrated that it is a suitable method to determine the battery charging current.

6. Claims 22, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanno et al. ('935), in view of Afzal et al. (US Patent No. 5635814, hereinafter '814).

For claim 22, 53, '935 teach the claimed invention except for the first conversion means including an inductive means, or the supply voltage is derived from an inductive means and rectified into a direct voltage to be applied to the inductive means of the first conversion means.

'814 disclose a battery charging device with the supply being derived through an inductive device L1 and rectified by bridge rectifier 410, then feed to the transformer of the charging circuit (Abstract; Fig. 8 and corresponding text). '814 demonstrated that the circuit is a suitable method for charging rechargeable battery. Therefore, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the charging circuit of 814 in the first conversion circuit of '935 as demonstrated by '814, in order to have converted the input supply to the power used for charging the rechargeable battery, because '814 has demonstrated that it is a suitable method in order to have charging the rechargeable battery.

7. Claim 23, 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanno et al. ('935), further in view of Kernahan et al. (US PG Pub No. 20040095020, hereinafter '020).

For claim 23, 54, '935 and '814 teach the claimed invention as discussed above except for the second conversion means including an inductive means (i.e., the DC to DC converter). '020 discloses a power converter circuit with a inductor 15 for

converting the battery voltage to a regulated output voltage for supplying power to load (Fig. 1). Therefore, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the DC/DC converter circuit of '020 for the second conversion circuit of '935 and 814, as demonstrated by '020, in order to have converted the battery voltage to the output voltage for supplying power to the load, because '020 has demonstrated that it is a suitable method in order to have converted battery voltage to output voltage for supplying power to load.

Allowable Subject Matter

8. Claims 10-11, 14-15, 21, 28-33, 43-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is an examiner's statement of reasons for allowance:

For claims 10-11, 14-15, 43-51, the prior art does not disclose or suggest, primarily, the shunt impedance means is connected in parallel to a shunt switch to short circuit the shunt impedance means when the shunt impedance is not in use.

For claims 21, 52, the prior art does not disclose or suggest, primarily, the implantable device is an implantable hearing prosthesis.

For claims 28-33. the prior art does not disclose or suggest, primarily, controlling the switch means to enable the charging of the plurality of batteries and the discharging

of the selected one or more batteries based on information on each of the rechargeable batteries stored in a register.

Response to Amendment

10. Applicant's arguments filed 7/2/2009 have been fully considered but are moot in view of the new ground of rejections.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUE ZHANG whose telephone number is (571)270-

1263. The examiner can normally be reached on M-Th 7:30-5:00PM EST, Other F 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Lewis can be reached on 571-272-1838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JZ

/Bao Q. Vu/
Primary Examiner, Art Unit 2838
November 9, 2009